



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,952	03/08/2005	Toshio Obara	37555	8006
116	7590	12/23/2005	EXAMINER	
PEARNE & GORDON LLP 1801 EAST 9TH STREET SUITE 1200 CLEVELAND, OH 44114-3108			PHUONG, DAI	
			ART UNIT	PAPER NUMBER
			2688	

DATE MAILED: 12/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/526,952	OBARA ET AL.	
	Examiner	Art Unit	
	Dai A. Phuong	2688	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-4 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>03/08/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Przelomiec et al. (U.S. 591521).

Regarding claim 1, Przelomiec et al. radio communication device comprising: an antenna 48 common for transmitting and receiving for meeting a first frequency band and a first transmitting a second frequency band (fig. 4, col. 6, lines 49-55);

a first transmitting unit 70 for transmitting so as to meet the first frequency band (fig. 4, col. 7, lines 6-10);

a first receiving unit 56 for receiving so as to meet the first frequency band (fig. 4, col. 6, lines 61-67);

a first antenna sharing device 42 for connecting an output part of the first transmitting unit to an input part of the first receiving part (fig. 4, col. 6, lines 55-61);

a second transmitting unit 72 for transmitting so as to meet a second frequency band (fig. 4, col. 7, lines 6-10);

a second receiving unit 58 for receiving so as to meet the second frequency band (fig. 4, col. 6, lines 61-67);

a second antenna sharing device 44 for connecting an output part of the second transmitting unit to an input part of the second receiving unit (fig. 4, col. 6, lines 55-61);

a wave separator 46 for connecting the antenna to the first antenna sharing device and the second antenna sharing device (fig. 4, col. 6, lines 55-61);

a transmitting band switching signal generating unit 68 for operating either of the first transmitting unit and the second transmitting unit to generate a transmitting band switching signal for switching a transmitting frequency band (fig. 4, col. 7, lines 6-10);

a receiving band switching signal generating unit 60 for operating either of the first receiving unit and the second receiving unit to generate a receiving band switching signal for switching a receiving frequency band (col. 6, line 61 to col. 7, line 3); and

a control unit 64 for controlling the operations of the first and second transmitting units, the first and second receiving units, the transmitting band switching signal generating unit and the receiving band switching signal generating unit (fig. 4, col. 7, lines 22-32).

Reasons for Allowance

3. The following is an examiner's statement of reasons for allowed:

Claims 2-4 are allowed.

Regarding claim 2, the prior art record does not disclose nor fairly suggest a radio communication device comprising: a first antenna common for transmitting and receiving for meeting a first frequency band; a first transmitting unit for transmitting so as to meet the first frequency band; a first receiving unit for receiving so as to meet the first frequency band; a first antenna sharing device for connecting an output part of the first transmitting unit to an input part of the first receiving part; a second antenna common for transmitting and receiving for meeting a

second frequency band; a second transmitting unit for transmitting so as to meet a second frequency band; a second receiving unit for receiving so as to meet the second frequency band; a second antenna sharing device for connecting an output part of the second transmitting unit to an input part of the second receiving unit; a Wave separator for connecting the first antenna or the second antenna to the first antenna sharing device and the second antenna sharing device; *an antenna switching unit for switching the connection of the wave separator to the first and second antennas*; a transmitting band switching signal generating unit for operating either of the first transmitting unit and the second transmitting unit to generate a transmitting band switching signal for switching a transmitting frequency band; a receiving band switching signal generating unit for operating either of the first receiving unit and the second receiving unit to generate a receiving band switching signal for switching a receiving frequency band; *an antenna switching signal generating unit for delaying the receiving band switching signals by a prescribed amount to generate an antenna switching signal for controlling the antenna switching unit*; and a control unit for controlling the operations of the first and second transmitting units, the first and second receiving units, the transmitting band switching signal generating unit and the receiving band switching signal generating unit.

Regarding claim 3, the prior art record does not disclose nor fairly suggest a radio communication device comprising: a first antenna common for transmitting and receiving for meeting a first frequency band; a first transmitting unit for transmitting so as to meet the first frequency band; a first receiving unit for receiving so as to meet the first frequency band; a first antenna sharing device for connecting an output part of the first transmitting unit to an input part of the first receiving part; a second antenna common for transmitting and receiving for meeting a

second frequency band; a second transmitting unit for transmitting so as to meet a second frequency band; a second receiving unit for receiving so as to meet the second frequency band; a second antenna sharing device for connecting an output part of the second transmitting unit to an input part of the second receiving unit; a wave separator for connecting the first antenna or the second antenna to the first antenna sharing device and the second antenna sharing device; *an external connector part for connecting an external antenna; an antenna switching unit for switching the connection of the first antenna, the second antenna and the external connector part to the first and second antenna sharing devices*; a transmitting band switching signal generating unit for operating either of the first transmitting unit and the second transmitting unit to generate a transmitting band switching signal for switching a transmitting frequency band; a receiving band switching signal generating unit for operating either of the first receiving unit and the second receiving unit to generate a receiving band switching signal for switching a receiving frequency band; *an antenna switching signal generating unit for delaying the receiving band switching signals by a prescribed amount to generate an antenna switching signal for controlling the antenna switching unit*; and a control unit for controlling the operations of the first and second transmitting units, the first and second receiving units, the transmitting band switching signal generating unit, the receiving band switching signal generating unit and the antenna switching unit.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yamaguchi et al. (Pub. No: 20020039912) base station equipment

Art Unit: 2688


Ke et al. (U.S. 6658263) wireless sytem combining arrangement

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dai A Phuong whose telephone number is 571-272-7896. The examiner can normally be reached on Monday to Friday, 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eng George can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dai Phuong
AU: 2688
Date: 12-22-2005


GEORGE ENG
PRIMARY EXAMINER